



## Specification

### Title of Invention

Title:: Magnetic Rake

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### Cross-Reference to Related Applications

Not Applicable

### Statement Regarding Federally Sponsored Research or Development

Not Applicable

**Reference to Sequence Listing, a Table, or a Computer Program Listing**

**Compact Disk Appendix**

Not Applicable

**Background of the Invention**

001 Clean up of small ferro-metallic items can be very difficult to do in a cost and time effective manner. In the construction industry providing the customer with a clean and safe environment both during the building phase and upon completion is very important. Screws and nails which are often discarded throughout the day by employees can be very dangerous. This danger poses a problem to vehicles as well as to people on the jobsite.

002 These items if not immediately picked up become lodged over time in the ground especially after it has been raining and the soil compacts and hardens. The current method and tools which are used, that of a magnetic wand does an insufficient job of picking these items up as it is waved over the ground. Ferro-metallic items also remain buried in ground coverings such as gravel and taller grass and magnetic force alone will not remove these items. It is customary to first rake the property which is to be cleaned with a conventional rake and then to follow up with a magnet pick up device, making it a two step process to do an effective job.

## **Brief Summary of the Invention**

001 A magnetic rake which will combine the steps of raking the ground and picking up ferro-metallic items at a construction jobsite or other area. This rake will also work well in cleaning places such as parks and playgrounds of dangerous ferro-metallic items such as screws and nails that are on the ground. This rake will simplify and speed up the process of maintaining a clean and safe jobsite work environment, or play area.

02 Current devices used are either large rolling magnetic sweepers which cannot maneuver very well around shrubbery or smaller magnet wands which just sweep over the ground. As the ferro-metallic items become buried in the ground, one of the best methods to remove them is mechanical agitation followed by magnetic pick up. This device performs both of these actions in one step.

## **Brief Description of the Several Views of the Drawing**

Figure 1:: A side view of the Magnetic Rake showing the rake body extrusion and handle sleeve that is attached to it. Also shown are the internal magnet and the handle which is attached by the handle sleeve.

Figure 2: A plan view of the rake body extrusion showing the profile and relative shape of the teeth as well as a bolting system to hold the handle in place.

## **Detailed Description of the Invention**

001 The primary design feature behind this magnetic rake is the ability to be used for two functions, raking and magnetic pick up at the same time. Using a non-magnetic alloy such as aluminum, the body **1** is extruded into a convenient length to be used for the particular application. For instance a length of 14 inches is ideal for clean up around existing shrubbery. Teeth **2** are formed in the extrusion by machining, stamping, cutting, etc. to help with agitation of the soil. A handle sleeve **4** is attached to the extrusion in a process, most likely welding **5** in a fashion to provide strength during use. Although an inserted handle **8** is shown, a non removable handle could be welded on as well. Having a removable handle **8** serves a dual purpose, allowing replacement at a later date as well as economical shipping cost. This handle could be attached with a mechanical system **6** through a hole **7** in both the handle sleeve **4** and the handle **8**. A magnet **3** is placed inside of the extrusion **1** which will provide the magnetic

attraction to the ferro-metallic items to be picked up. A square magnet 3 is shown but a variety of shapes can be used.

002 This device fills a void in the marketplace for a midsized magnetic pick up tool. The smaller wand type devices are just waved or lightly dragged over the ground in an attempt to pick up ferro-metallic items. Although effective in very tight quarters these devices cannot agitate the soil or other ground cover enough to consistently pick up the dangerous ferro-metallic items. The other option in performing this task is the larger wheeled pick up devices. These are viable options when sweeping larger smooth surfaces clean of ferro-metallic items, but they are unable to get in around shrubbery and other tight areas to retrieve the ferro-metallic items. The magnetic rake submitted here can perform the job of both mentioned items very well.